

DipLETE – CS (OLD SCHEME)

Code: DC06
Time: 3 Hours

Subject: ANALYSIS AND DESIGN OF INFORMATION SYSTEMS

Max. Marks: 100

JUNE 2009

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q. 1. must be written in the space provided for it in the answer book supplied and nowhere else.
- Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

Q.1 Choose the correct or the best alternative in the following: (2×10)

- a. Some of the tasks in the general problem-solving model are listed below. Which of the following list these tasks in the correct sequence?
- (A) Problem definition, Finding solutions, Problem redefinition.
 - (B) Data gathering, Finding solutions, Finding ideas.
 - (C) Problem definition, Data gathering, Problem redefinition.
 - (D) Finding ideas, Data gathering, Finding solutions.
- b. Which of the following is a consequence of subdividing the development process?
- (A) It makes more difficult to manage a project.
 - (B) It allows teams of developers with specialist skills to be allocated to a particular phase.
 - (C) It helps to identify smaller tasks that can be completely finished.
 - (D) It makes the development process quicker and easier.
- c. Which of following describes Strategic Information Systems Planning?
- (A) It is concerned with planning the implementation of information system.
 - (B) It is concerned with planning information systems development within the context of the organizational strategy.
 - (C) It is concerned with how information systems can support strategic planning in an organization.
 - (D) It concerns review of computer technology, applications and management.
- d. Some of the phases of the Traditional Life Cycle are listed below. Which of the following lists is in the correct sequence?
- (A) Construction, Installation and Testing.
 - (B) Requirements analysis, Systems engineering, Design.
 - (C) Systems engineering, Requirement analysis, Design.
 - (D) Requirements analysis, Testing, Design.
- e. Which of the following is true about the criteria for acceptance tests?
- (A) They are best identified at the end of the design phase.
 - (B) They are best identified at the end of requirements analysis.
 - (C) They are best identified at the beginning of the testing phase.
 - (D) They are best identified at the end of the testing phase.
- f. Which of the following statements is true about adaptive maintenance?

- (A) It is concerned with changing the system when requirements changes.
 (B) It is concerned with ensuring the system data to suit changes in the organization.
 (C) It is concerned with maintaining the system so that it can adapt automatically to change the organization.
 (D) It is concerned with maintaining the system foreseeing the coming changes.
- g. Which of the following is a disadvantage of the traditional life cycle?
 (A) It does not allow the use of object-oriented technology.
 (B) Requirements change during development after the main system requirements have been agreed.
 (C) It separates requirements analysis and design.
 (D) It includes implementation and continuing operations.
- h. Which of the following statements is true about a prototype system?
 (A) A prototype system is always discarded before the final production system is built.
 (B) Rapid development tools are only used to built prototype systems.
 (C) A prototype system is incomplete or lacks the resilient construction of the final production system.
 (D) With the evolutionary approach the prototype always becomes the final system.
- i. Which of the following is not a workflow in the Unified software Development Process?
 (A) Construction (B) Implementation
 (C) Test (D) Analysis
- j. Which of the following is an example of a systems development methodology?
 (A) The traditional life cycle
 (B) The Unified Modeling Language
 (C) The Unified Software Development Process
 (D) Spiral Modelling

**Answer any FIVE Questions out of EIGHT Questions.
 Each question carries 16 marks.**

- Q.2** a. What are the characteristics and elements of a typical business system? (8)
 b. Describe the chronological phases of the System Development Life Cycle (SDLC). (8)
- Q.3** a. Explain the different categories of feasibility tests. (8)
 b. List the tasks required to complete the requirement analysis phase. (4)
 c. Differentiate between
 (i) Fixed & Variable cost
 (ii) Tangible & Intangible benefit (4)
- Q.4** a. Who are the stakeholders of an information system? Classify them. (8)

- b. Construct Data Flow Diagram to describe the process of issue and return of books of Library. (8)

Q.5 a. Why should a system analyst use a fact-finding strategy when working with an end-user? Also state which fact-finding technique is generally recognized as the most important and most often used. (8)

- b. Construct an E-R diagram of a company having four departments such as HR, Marketing, Accounting, IT and show the relationship between them. (8)

Q.6 a. What are four characteristics for consideration while designing forms and reports? (6)

- b. Briefly describe the object-oriented life cycle. (6)

c. Explain the technique of "Discovery Prototyping". What are the advantages & disadvantages of this technique? (4)

Q.7 a. Identify two rules that comprise the first step to become an effective GUI designer. (6)

- b. Briefly describe the following:

(i) System audit. (ii) System security. (6)

c. Describe the features of robustness and usability of an interface. (4)

Q.8 a. What is the critical path and why is it important to project managers? (8)

- b. Differentiate between open and closed system. (4)

c. What benefits can be realized through the object-oriented concepts of an inheritance and an encapsulation. (4)

Q.9 a. What is the need of system testing? Explain any five testing techniques and their basic objectives. (8)

- b. What are the UML notations for multiplicity? Give examples of object/class relationships that demonstrate each type of multiplicity. (8)